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Tune up your Lionel diesel-style coal loader

Old no. 397 rocks and rolls and throws some coal

by Ray L. Plummer
photos by Chris Becker

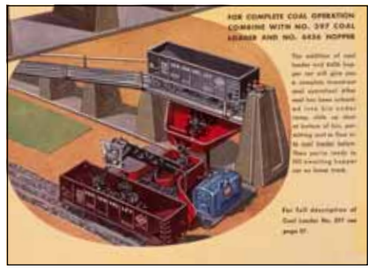
Lionel's entertaining no. 397 diesel-type operating coal loader was patterned after a common piece of trackside equipment used by the coal industry and railroads. Motor-driven, conveyor-belt loaders vaguely resembling Lionel's have long been used at locations too small to warrant heavy coal-handling facilities.

The Lionel loader, cataloged from 1948 through 1957, has a gray die-cast base, a red plastic scoop-like holding bin or tray, and either a yellow or blue simulated General Motors stationary diesel engine. The "engine" is actually a hollow plastic shell that conceals a real electric motor. Early runs of the no. 397 were illuminated by a small no. 70 yard light attached to a pole at the rear corner of the base.

Loading and unloading

In operation, coal unloaded into the holding tray can be reloaded later into another railroad car at the same track location. This process is not very satisfying for those modelers who prefer realistic operation. A continuous cycle of dumping and loading could be set up using the no. 397 in conjunction with the no. 456 coal ramp. A special bin packed with the ramp fits on the coal loader.

The service manual says "a small number of the early 1948 models of no. 397 coal loader also were equipped with no. 70 lamp post mounted on the metal base. This lamp post was subsequently eliminated…" So was the yellow diesel motor; it's most commonly painted blue.



A typical combination of accessories involves the no. 397 diesel-type coal loader and a no. 456 operating coal ramp.

When the 397 is activated, the pile of coal at the front of the holding tray is agitated by a sharp reciprocating motion in the tray, causing the coal to work its way up into a bin at the rear of the accessory. There it's picked up by the conveyor belt, lifted to an appropriate height, and deposited into a waiting empty car. The coal shakes, rattles, and spills as it moves up the conveyor. Some of it actually reaches the car.

Baling wire and chewing gum

A recurring problem concerns stray coal lumps that get caught under the conveyor belt, jamming up the works. This was particularly troublesome on the early models. Lionel redesigned the conveyor beam and added cover clips as a remedy, but the fix wasn't perfect. The loaders still jammed, just not as often. So be prepared to poke out the coal pieces that occasionally get stuck under the belt. It's all part of the fun.

To further minimize the problem, the factory service manual recommended using only genuine Lionel no. 206 artificial coal because it had been screened to a uniform size. (So far, so credible.) But then it went on to recommend wrapping a strip of masking tape or Scotch Tape around the beam spacers. (How about baling wire and chewing gum?) If Lionel's engineers couldn't come up with a better solution in 10 years of production, we should consider this a kind of genetic defect and live with it.

An almost universal problem, even with coal loaders that have never been used, is a deteriorated conveyor belt. After 50 years or more, the character of the rubber changes. Some belts become soft and tacky; others get dried out and crack or stretch. In either case, they don't work well anymore.

Fortunately, excellent quality replacements are available, so plan on installing a new belt if you intend to operate your coal loader. If your unit is one of the later models with a black rubberized flexible drive coupling between the gearbox and main shaft, it's a good idea to replace that, too, even if it still looks all right. (It's like having a 30-year-old tire on your truck; you never know when it will let go.)

Belt removal

To replace the belt (fig. 1), separate the conveyor, tray assembly, and base from each other. Start by removing the plastic motor cover held in place by one thumbscrew. Work the heavy-wire conveyor supports out of their moorings in the base by squeezing them together; they'll pop right out.

Next, remove the two shaft-bearing cover plates toward the rear of the base;

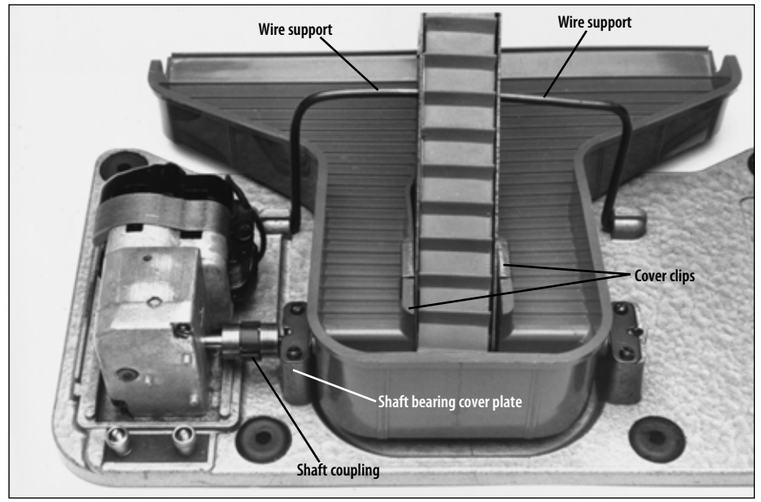


FIG. 1 The first steps in replacing a worn-out belt are to remove the heavy-wire supports and the two shaft-bearing cover plates toward the rear of the base.

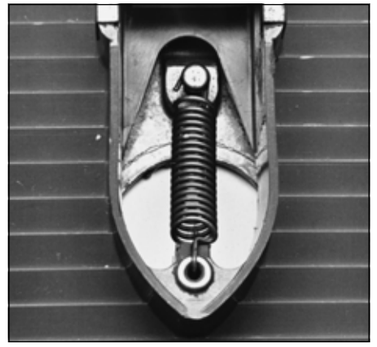


FIG. 2 Remove the scoop by releasing the spring beneath the conveyor assembly.

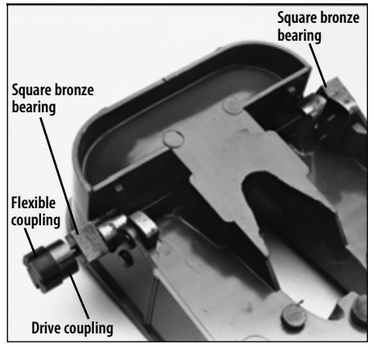


FIG. 3 Take care when removing the shaft from the tray. After removing the exposed square bronze bearing, gently tap on the end of the shaft with a small hammer.

they're held in place by two screws. After releasing the spring that holds the base and tray together (fig. 2), carefully lift the tray from the base, working the shaft coupling free of the drive coupling as you proceed.

With the tray on its side and the coupling end of the shaft down, remove the exposed square bronze bearing. See fig. 3. Gently tap the end of the shaft with a small hammer until the cam slides off, and the beam assembly can be removed from the tray. Be very careful. If you hit it too hard, you may break the plastic tray. Try not to dislodge the other cam; that will allow you to use it as a guide during reassembly. (If the accessory has been stored in a damp environment, the cams may be rusted tight to the shaft. Soak them in penetrating oil until they free up.)

Now, remove the retaining washer (horseshoe clip) from the pin at the top end of the conveyor (fig. 4). Using a punch, drive the pin out. Before removing the old belt, note its position on the conveyor assembly with regard to the protruding "trays." The new belt must be put on the same way. If you put the belt on backward, the coal will slide off before it reaches the top.

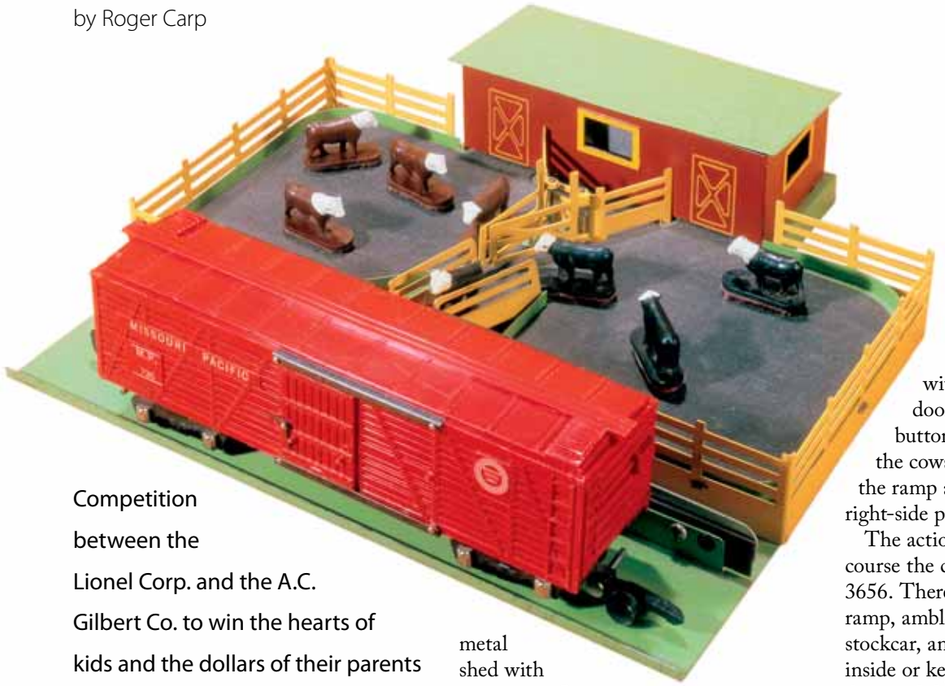
Belt tightening

Install the new belt. Be prepared for a tough stretch. The belt has to be tight or it won't work. Be sure you put the idler

American Flyer's no. 771 operating stockyard

The A.C. Gilbert Co. built this accessory to corral Lionel

by Roger Carp



AMERICAN FLYER 771 OPERATING STOCKYARD AND CAR

Cataloged: 1950-54.

Current price: Good $46; excellent $145.

Data courtesy of *Greenberg's Pocket Price Guide to American Flyer and Other S Gauge Manufacturers,* 2005 edition

Competition between the Lionel Corp. and the A.C. Gilbert Co. to win the hearts of kids and the dollars of their parents heated up as toy train sales climbed in the late 1940s and '50s.

The burner was on high at the American Toy Fair in 1949, as Lionel and Gilbert unveiled the latest additions to their respective O and S gauge lines.

A.C. Gilbert "must have had a cow" when he learned about Lionel's sizzling no. 3656 operating stockyard. A.C. had been in the toy business long enough to recognize that this item gave Lionel a leg (or hoof) up on his company.

Top management at Gilbert felt pressure to come up with a version of Lionel's operating stockyard. Taking the bull by the horns, they had the no. 771 ready for the American Flyer line a year later in 1950.

Gilbert's operating stockyard resembled the Lionel model by using a motor (inside the brown-painted sheet-metal shed with a green roof) to vibrate a mat on top of a sheet-metal base. The vibrations shook eight cows (four with brown bodies and four with black) and, thanks to the black, gray, or red brushes glued to their bases, caused the compliant bovines to move into a metal chute.

Unlike Lionel, Flyer engineers put the fencing, gates, and ramp in the middle of the stock pen. With the power turned on, the herd of white-faced steer bounced into one of the open doors of a no. 736 Missouri Pacific stockcar. The link-coupler S gauge stockcar was part of each stockyard accessory. Once inside the car, the cows were propelled ahead until they came to rest at a second door (assuming it was shut; otherwise, they tumbled out).

Unloading a shipment of cattle involved shifting the stockcar a few inches until the second door aligned with the ramp. Opening the door and pushing the power button on the controller allowed the cows to boogie their way down the ramp and back into the left- or right-side pens.

The action differed from the circular course the cattle took on the Lionel 3656. There, the cows went up one ramp, ambled through the O gauge stockcar, and either bedded down inside or kept vibrating out the second door and down the next ramp into the curved-path corral.

The 771 appeared in the Gilbert catalog through 1954. Versions have been cited with green-, gray-, or blue-painted bases; black, tan, or white mats; black, gray, or white controllers; and yellow-painted three-rail or four-rail fences and gates. None of these differences affect the accessory's value.

A later version that included a stockcar with knuckle couplers (the no. 976 car) was offered from 1953 through 1956. The beefed-up K771 featured a blue-painted base, tan vibrating mat, white controller, and three-rail fences and gates. Values duplicate those of a 771.

After six years in the catalog, the sizzle was gone, and the operating stockyard disappeared from the Flyer line. Lionel saw its steak turn to hamburger, too, and after six years pulled the plug on its virtually identical accessory.

Lube, oil, and filter

Give your vintage Lionel accessories the tune-up they need — and deserve

by Stanley W. Trzoniec
photos by the author

Lionel trains always held an important place in my heart. From days of scanning those catalog "wishbooks" to building and operating my layout, the Lionel experience taught me numerous skills – carpentry, electrical work, and organizational needs. In all honesty, there's never been a time in my life when some part of my Lionel training fails to show up.

And while some of my paper route income went for new boxcars, my favorite interest lay with Lionel's great array of operating accessories. They gave purpose to my railroad, generated traffic, and added excitement for an already enthusiastic young operator.

Today, postwar Lionel accessories are available at swap meets or through advertisements in *Classic Toy Trains*. My house is paid off and my kids are out of college, so I now enjoy the luxury of chasing after new-in-box or like-new accessories. But no matter how new the piece is (or how "new" you'd like it to be), all Lionel accessories deserve tender loving care in both appearance and operation.

Materials for the job

The finish applied to Lionel accessories is quite rugged – tough enough to last decades after manufacture with only moderate care. Items packed away in near-normal atmospheric conditions will restore to a "good as new" finish with modern chemicals and waxes. Being a writer on outdoor topics puts me in contact with excellent products that work great for cleaning and tuning Lionel accessories.

Visit your local sporting goods store. You'll find a huge assortment of products that gun enthusiasts use on their most expensive engraved firearms – pieces that can be worth hundreds of thousands of dollars. Considering those items' value, you can feel safe using the products on your Lionel collectibles – in the right places, of course.

One of the best refined greases I've found that won't gum, harden, or destroy is called Gunslick. When used on gears and cams, Gunslick smooths and quiets operation. Remington's Rem-Action Cleaner is a nonflammable spray that (when used with its "straw") gets into very small places like side rods, chain drives, and contactors. Rem-Action leaves no residue and dries almost immediately on contact.

Other products are perfect for helping preserve Lionel accessories' good looks. They include cotton gun-cleaning patches, light oil, and flannel polishing cloths filled with silicone. You'll find them at sporting goods and gun stores.

Two additional products deserve mention. Sheila Shine (available at gun stores) is great for polishing stainless-steel pieces like milk platforms, cattle runways, and other unprotected surfaces. Household products like Joy dishwashing detergent also help bring back that original finish. Liquid wax like Boyle-Midway's Old English won't harm surfaces – and I've polished many during the past 10 years. One outstanding feature of Old English is that it doesn't leave a residue after buffing.

Necessary disassembly

Before overall cleaning and lubrication begins, it's often necessary to disassemble the accessory. That's particularly true if you just purchased

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